

We Claim:

1. In combination with a fixed offshore hydrocarbon production platform which comprises a deck attached to a base that is secured to the sea floor, the improvement comprising a GTL facility for converting natural gas into a hydrocarbon liquid which comprises:
  - a syngas reactor for converting the natural gas into syngas; and
  - a liquids production unit for converting the syngas into the hydrocarbon liquid;

wherein at least one of the syngas reactor and the liquids production unit comprises a catalyst which is constructed using PI micro-reactor technology; and

wherein the GTL unit is sufficiently small to be located on the deck of the platform.
2. The combination of claim 1, further comprising a gas pre-processing unit for converting the natural gas into a form which is suitable for processing by the syngas reactor.
3. The combination of claim 2, wherein the gas pre-processing unit performs at least one of the following functions on the natural gas: filtering; desulphering and dehydrating.
4. The combination of claim 1, further comprising a hydrocracker unit for converting the hydrocarbon liquid into at least one hydrocarbon fuel.
5. The combination of claim 1, wherein the syngas reactor employs a steam reforming process to convert the natural gas into syngas.

6. The combination of claim 1, wherein the syngas reactor comprises a catalyst which is constructed using PI micro-reactor technology.

7. The combination of claim 6, wherein the catalyst comprises a reticulated ceramic foam catalyst.

5 8. The combination of claim 7, wherein the catalyst further comprises one or more metal oxides selected from the group consisting of chromium, cobalt and nickel.

9. The combination of claim 1, wherein the liquids production unit employs a Fisher-Tropsch process to convert the syngas to the hydrocarbon  
10 liquid.

10. The combination of claim 1, wherein the liquids production unit comprises a catalyst which is constructed using PI micro-reactor technology.

11. The combination of claim 9, wherein the catalyst comprises an inactive substrate having a plurality of channels formed therein.

15 12. The combination of claim 11, wherein the channels are coated with a Fisher-Tropsch catalyst.

13. A GTL facility for a fixed offshore hydrocarbon production platform which comprises a deck attached to a base that is secured to the sea floor, the GTL facility comprising:

20 a syngas reactor for converting natural gas from a subsea well into syngas; and

a liquids production unit for converting the syngas into a hydrocarbon liquid;

wherein the GTL unit is sufficiently small to be located on the deck of the platform.

14. The GTL facility of claim 13, wherein at least one of the syngas reactor and the liquids production unit comprises a catalyst which is constructed using PI micro-reactor technology.

15. The GTL facility of claim 14, wherein the syngas reactor comprises a reticulated ceramic foam catalyst.

16. The GTL facility of claim 15, wherein the catalyst further includes one or more metal oxides selected from the group consisting of chromium, cobalt and nickel.

17. The GTL facility of claim 14, wherein the liquids production unit comprises a which includes an inactive substrate having a plurality of channels formed therein.

18. The GTL facility of claim 14, wherein the channels are coated with a Fisher-Tropsch catalyst.

19. The GTL facility of claim 14, further comprising a gas pre-processing unit connected upstream of the syngas reactor for filtering, desulphering or dehydrating the natural gas.

20. The GTL facility of claim 14, further comprising a hydrocracker unit for converting the hydrocarbon liquid into at least one hydrocarbon fuel.